Claims:

1. Linker system for activating surfaces for bioconjugation having the following general formula (I):

$$X\text{-}[(Y_1)_i\text{-}Q\text{-}(Y_2)_j]_k\text{-}Z \quad (I)$$

wherein X is a reactive group capable of covalently binding to a surface, Z is a reactive group capable of covalently binding to a biomolecule, with the proviso that X is not Z, Y_1 and Y_2 are independently from each other CR_1R_2 with R_1 and R_2 being independently from each other H, C_1-C_4 alkyl, C_1-C_4 alkoxy or C_1-C_4 acyloxy, i, j, k are independently from each other an integer in the range from 1 to 10, with the proviso that the total number of C atoms in Y_1 and Y_2, the C atoms of R_1 and R_2 not included, is in the range of 2 to 100, and Q is a hydrophilic atom or group selected from the group consisting of O, NH, C=O, O-C=O and CR_3R_4, wherein R_3 and R_4 are independently from each other selected from the group consisting of H, OH, C_1-C_4 alkoxy and C_1-C_4 acyloxy, with the proviso that R_3 and R_4 are not H at the same time and that for Q = NH Z is not NH_2, and wherein in the case of $k > 1$ the Q's for each $[(Y_1)_i\text{-}Q\text{-}(Y_2)_j]_k$ are independently selected from each other.

2. Linker system according to claim 1 wherein said reactive group X is selected from the group consisting of a disulfide group, a thiol group, a SiW_3 group with W being a hydrolyzable atom or group, and a group capable of forming free radicals such as an anthrathione group or a derivative thereof, an anthraquinone group or a derivative thereof, a benzophenone group or a derivative thereof.

3. Linker system according to claim 2 wherein said hydrolyzable atom or group W is selected from the group consisting of halides, C_1-C_4 alkoxy, C_1-C_4 acyloxy and amino groups.

4. Linker system according to any of the preceding claims wherein said reactive group Z is capable of nucleophilic substitution reactions, nucleophilic addition reactions, Diels-Alder reactions or radical substitutions.

5. Linker system according to claim 4 wherein said reactive group Z is selected from the group consisting of a reactive double bond, a diene group, a dienophilic group, an epoxy group, an aldehyde group, a hydroxyl group, a carboxylic acid group, an active ester group, an amino group, a disulfide group, a thiol group, an aziridine group, an isocyanate group, an isothiocyanate group an azide group and a reactive leaving group.

6. Surface carrying a linker system according to any of claims 1 to 5.

7. Surface according to claim 6 wherein said linker system forms a patterned array.

8. Surface according to claims 6 or 7 wherein said surface is selected from the group consisting of a SiO_2 surface of a silicon wafer, glass, quartz, fused silica, gold and a polymer.

9. Surface according to any of claims 6 to 8 wherein said linker system is covalently bonded to a biomolecule.

10. Surface according to claim 9 wherein said biomolecule is a partner of a specifically interacting system of complementary binding partners.

11. Surface according to claim 10 wherein said specifically interacting system of complementary binding partners is based on nucleic acid/complementary nucleic acid, peptide nucleic acid/nucleic acid, enzyme/substrate, receptor/effector, lectin/sugar, antibody/antigen, avidin/biotin or streptavidin/biotin interaction.

12. Surface according to claim 11 wherein said nucleic acid is a DNA or RNA.

13. Surface according to claim 12 wherein said DNA or RNA is an oligonucleotide or an aptamer.

14. Surface according to claim 11 wherein said antibody is a polyclonal, monoclonal, chimeric or single-chain antibody or a functional fragment or derivative of such antibodies.

15. Process for the detection of a biomolecule which is a partner of a specifically interacting system of complementary binding partners comprising the steps of

a) contacting a surface according to any of claims 10 to 14 with a sample suspected to contain the complementary binding partner,

b) removing non-specifically bound sample components in a washing step, and

c) detecting the specifically bound sample components.

16. Process according to claim 15 wherein for said detecting a colored, fluorescent, bioluminescent, chemoluminescent, phosporescent or radioactive label, an enzyme, an antibody or a functional fragment or derivative thereof, a protein A/gold based system, a biotin/avidin/streptavidin based system or an enzyme electrode based system is used.

17. Process for the isolation of a biomolecule which is a partner of a specifically interacting system of complementary binding partners comprising the steps of

a) contacting a surface according to any of claims 10 to 14 with a sample suspected to contain the complementary binding partner,

b) removing non-specifically bound sample components in a washing step, and, optionally,

c) eluting the specifically bound sample components.

18. Use of a surface according to any of claims 10 to 14 as an affinity matrix.

19. Use of a surface according to any of claims 10 to 14 in a sensor chip or biochip.

20. Medical or diagnostic instrument comprising a surface according to any of claims 10 to 14.